



Cornell University

K-12 Education and Outreach, Mathematics Department

MATH 5080

Mathematics for Secondary School Teachers

April 30, 2011

9:00 am – 2:30 pm

207 Malott Hall

8:45-9:00 **Welcome** (juice and bagels provided)

9:00-9:15 **Introductions**

9:15-11:30 **Analyzing Mathematics Textbooks – Beyond the “Flip Test”**
Mary Ann Huntley (Cornell University)

Textbooks have an enormous influence on what and how mathematics is taught, so it stands to reason that choosing a mathematics textbook is an important task. But at the same time, choosing a textbook can be both overwhelming and time consuming, which often leads to the “flip test” – quick browsing of several textbooks to see whether major features are present. Despite the sometimes nuanced differences across different curricular programs, textbooks often get lumped into one of two broad categories – reform or traditional. In this session I will offer a framework for better understanding and appreciating differences across mathematics curricular programs, and discuss my current textbook analysis project in which every item in the algebra strand of four popular high-school textbook series is being analyzed. This will be a hands-on session. Reflections from teacher collaborators will be shared, along with implications for your own teaching.

11:30-12:00 **Lunch** (provided)

12:00-1:00 **Analyzing Mathematics Textbooks – Beyond the “Flip Test”**
(continued)

1:00-2:30 **The Price of Anarchy**
John Hubbard (Cornell University)

It certainly seems that a new bridge will solve some transportation problems. But as it turns out, this is not necessarily the case. It may well be that building a bridge will slow everyone down! I will explain why this is true and show that it isn't even unusual. Although it goes against “common sense,” closing roads often speeds up travel times for everyone, although not by all that much. In this talk I will explain why the price of anarchy is $\frac{4}{3}$.

Contact Mary Ann Huntley by Wednesday, April 27th if you plan to attend.

E-mail: huntley@math.cornell.edu Phone: (607) 255-5529